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uals of Leidy's *proteus*, or probably a varietal strain of this species in which the nucleus readily becomes folded. (Penard does not discuss anywhere to my knowledge the fact that Leidy speaks repeatedly of a discoid nucleus in *A. proteus*.)

According to the rules of priority of the International Code, therefore, Leidy's (really Pallas's) name *proteus* must stand for the ameba possessing a discoid nucleus and longitudinal ectoplasmic ridges and grooves on the pseudopods. This leaves Penard's *proteus*—the ameba with an ovoid nucleus—without a name, the name *proteus* having been pre-empted by Pallas and Leidy. I therefore propose the name *dubia* for this species.

This then clears up the confusion arising out of observations and descriptions relating to *A. proteus* as recorded by Leidy and Penard; but in the progress of my work in this connection some new observations were made which may properly be incorporated in this summary.

To wit: I found that the species *proteus* as Leidy described it may be divided into two species, one of which is larger than the other and always exhibits more or less conspicuous longitudinal ridges and grooves on the pseudopods and frequently shows folds on the nucleus; while the other and smaller species never shows ridges or grooves on the pseudopods nor is the nucleus ever folded. From Leidy's figures and descriptions it is evident that the former species—the one showing ridges and grooves—was considered by him the typical *proteus*, and this name should therefore be retained for this ameba according to the code. For the other species I propose the name *discoides*.

Amœba proteus then is recognized readily by the presence of longitudinal ridges and grooves on the pseudopods. *A. dubia* is easily recognized by the possession of an ovoid nucleus. *A. discoides* is recognized by a discoid nucleus and the absence of folds and grooves on the pseudopods. Any ameba in normal condition belonging to either of these three species may be readily recognized in the living condition under 360 diameters' magnification, according to the characters here enu-

merated. Of these three species *proteus* and *dubia* are the larger and the more common, while *discoides* is somewhat smaller and less common, so far as my experience goes.

These findings are based on individual pedigrees running for upwards of a hundred generations each for *proteus* and *dubia* and for about forty generations of *discoides*, including always a number of collateral lines. Numerous individuals from wild cultures from various localities were examined and compared with the pedigreed stock. There is much greater permanency in the so-called protoplasmic characters than is commonly realized.

This is a brief and doubtless somewhat unsatisfactory summary of the work on these amebas, but for fuller details and drawings reference must be made to the original paper, which I hope may soon be found and published.

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ZUÑI INOCULATIVE MAGIC

THERE are many varieties of sympathetic magic at Zuñi. I shall give only instances of that subdivision of the homeopathic variety which may be called magical inoculation. It is a form, as it were, of discharming. Instead of applying a bit of the analogous thing to produce an analogy, the direct form of homeopathy, a bit is applied to overcome the analogy, the principle obviously of inoculation.

Birthmarks and malformations are accounted for by the Zuñi as due to parental, for the most part paternal, carelessness during the pregnancy, the result of the expectant father taking part in a ceremonial or hunting rabbits or prairie dogs or other animals or killing a snake. The child will be marked in some way like the ceremonial mask or spotted like a snake or according to the injury suffered by the quarry, blinded or maimed. A medicine member of the Ne'wekwe or Galaxy Fraternity told me that at birth the forehead and chest of his son had had the print of an entrail—preoccupation with the entrails of animals is a characteristic of the Ne'wekwe Fraternity, and this man had in fact taken part in a fra-

ternity ceremonial before the birth of his son. The head of the daughter of this once birth-marked man was a bit flattened on one side. It was flattened, believed her grandfather, because her father would go prairie-dog hunting before her birth and he always shot his prairie-dogs in the head.

Now the cures for birthmarks or malformations are, the cause being a ceremonial, to put on the ceremonial mask in question and dance hard in the presence of the child, subsequently rubbing the sweat of one's body on to the child; and, the cause being a hunted animal, to hunt the same animal and rub its blood on the child. Similarly, to cure an infant of crying incessantly—it cries because its back pains and its back pains because before its birth its father has overdriven his horses, belaying them presumably on the back—to cure it one must drive a team hard and rub on to the child's back the sweat from under their collar or some piece of their harness.

If a child becomes deaf—cases of deafness at birth are unknown—it is because during her pregnancy its mother stole. To cure the child she must steal again and burning the object stolen puts its ashes into the ears of the child. If the cord of a new-born infant "runs," it is because one who has been bitten by a snake has been present in the room. That person should be found and then four times he should wave some ashes around the heads of mother and child. Otherwise the child will die.

The deer-hunter who sees a buck and doe together and the buck mount the doe, knows that by this token the deer are "telling" him of what is happening at home. His faithless wife is far from "staying still" in the house she should leave but once, at noon time, for water, while her husband is off hunting. It becomes his business, therefore, to shoot the deer and take out their hearts. On his return home he will find his wife and her lover sick. To cure them, if he pity them, he will have to rub them with deer heart made up into a ball with meal, rubbing the woman with the heart of the doe, the man with the heart of the buck.

Should a person be struck or shocked by

lightning, he or she must be given some rain water of that same storm to drink, rain water plus black beetle and suet. Otherwise the person will "dry up" and die.¹ About three years ago a certain house on the south side of the river was struck. The three women in it neglected to take the prescribed drink. To-day the three are dead, two dying a year or two ago, the third this summer.

Should a person in dying "frighten" any one, from the head of his corpse a lock of hair is cut. The hair is burned and the smoke of it is inhaled by the person who has been upset. This practise, however, is uncommon.²

ELSIE CLEWS PARSONS

SPECIAL ARTICLES

THE IMPORTANCE OF LATERAL VISION IN ITS RELATION TO ORIENTATION

IT is a well-established principle that binocular vision gives to human beings a means of determining the relative distances between near-by objects, as well as the distances of these objects from the observer. The basis of this power lies in seeing the objects from two points of view, giving a stereoscopic effect, which, however, is decreasingly effective as the objects are removed from the eyes. It is apparently partly the decreasing stereoscopic effect with increasing distance which forms the basis of measurement; and partly a judgment of distance in some way through the muscular movements of the eyes, and those governing the accommodation of the lenses. The power of measuring distance by binocular vision is, however, scarcely effective at distances greater than four or five hundred feet. It is entirely

¹ The experience qualifies a survivor for becoming a doctor. One of the present *tenientes* or members of the governor's staff or council is a lightning-struck doctor.

² Mrs. Stevenson's description of this practise is somewhat different, remaining, however, one may infer, an illustrative of inoculation magic. "If a person takes a bit of hair of a deceased friend, burns it, and inhales the smoke he will have good health and not die, but go to sleep and thus pass on to *Ko'thluwa'la*" ("The Zuñi Indians," p. 309, XXIII. (1901-02), *Am. Rep. Bur. Amer. Ethnol.*).